

REMARKS

This Application has been carefully reviewed in light of the Office Action dated April 22, 2003 (Paper No. 7). Claims 1 and 58 to 66 are in the application, all of which are independent and have been amended herein. Reconsideration and further examination are respectfully requested.

Claims 1 and 58 to 66 have been rejected under 35 U.S.C. §102(b) over U.S. Patent 5,105,283 (Forest) or U.S. Patent 5,839,033 (Takahashi). Claims 1 and 58 to 66 have been rejected under 35 U.S.C. § 103(a) over U.S. Patent 4,928,252 (Gabbe) and Forest, and Claims 62 to 66 have been rejected under 35 U.S.C. § 103(a) over Takahashi and Forest.

The present invention generally relates to re-sizing in a print layout device, in which drawing commands are spooled based on a print request provided by an application, and a re-sizing operation is performed on the drawing commands based on a margin setting for a recording sheet. A print job is then generated from the re-sized drawing commands.

By virtue of this arrangement, print data generated from drawing commands output by an application can be re-sized by operation on the drawing commands once they are output by the application, and prior to generation of a print job comprising print control commands used for outputting the print data by an output device such as a printer.

Claims 1 and 58 to 61

Turning to the specific language of the claims, Claim 1 defines a print layout device, which serves as a host computer, for providing a layout for a recording sheet

and generating a print job to be sent to a printer. The print layout device comprises a margin setting means, a spooling means, a data re-sizing means and a generation means. The margin setting means sets a margin for a sheet, wherein the margin setting means also sets a binding margin adjacent to a center line in a sheet such that the sheet is folded along a line in the binding margin for bookbinding. The spooling means spools drawing commands based on a print request provided by an application in a memory. The data re-sizing means re-sizes by operation on the drawing commands spooled by said spooling means in the memory in each logical page provided by the application in consonance with a printable area of a physical page obtained based on the margin set by said margin setting means, wherein the data re-sizing means also performs a process for arranging the re-sized drawing commands such that data generated based on the re-sized drawing commands are arranged on the printable area based on the binding margin. The generating means generates a print job comprising at least one printer control command based on the drawing commands re-sized by said data re-sizing means.

The applied art, namely Forest, Takahashi and Gabbe, is not seen to disclose or to suggest a re-sizing means adapted to re-size by operation on spooled drawing commands provided by an application program, and a generating means generating a print job to be sent to a printer, the print job comprising at least one printer control command based on the re-sized drawing commands.

Forest is seen to describe generating a signature sheet containing plural printed pages for collation in a booklet form, by scanning documents using scanner 22, and aligning the scanned images on pages. (See Forest, Abstract, col. 1, lines 13 to 24, and col. 6, lines 14 to 30.) While Forest describes reducing documents to 90 percent of their

original size, at col. 6, lines 54 to 68, this is seen to be a reduction in a scanned image (e.g., a bitmap image), and is not seen to disclose or to suggest operating on drawing commands to re-size and then to generate a print job from the re-sized drawing commands. The remaining portions of Forest cited by the Office action are also not seen to disclose or to suggest re-sizing by operation on drawing commands, and generating a print job, which is to be sent to a printer, based on the the re-sized drawing commands.

Takahashi has been carefully reviewed and is not seen to remedy the deficiencies of Forest. More particularly, Takahashi is seen to describe an image forming apparatus used to set a binding margin. (See Takahashi, Abstract.) The image forming apparatus in Takahashi is seen to be a copier consisting of a scanner and a printer, and the enlargement/reduction performed by Takahashi is seen to be performed on pixel image data output by the scanner. (See Takahashi, col. 7, lines 57 to 67.) Similarly, Takahashi, at col. 10, lines 38 to 53, is seen to describe reducing an image of an original document captured by the scanner.

Gabbe, including the portions cited in the Office Action,¹ has also been carefully reviewed and is also not seen to disclose or to suggest re-sizing by operation on spooled drawing commands provided by an application program, and generating a print job, which is to be sent to a printer, and which comprises printer control commands based on the re-sized drawing commands.

Gabbe is seen to perform N-up printing such that a selected grid-like structure, which places multiple pages on a recording sheet, provides the greatest coverage

^{1/} At page 6 of the Office Action, Figures 11 and 12 of Gabbe are cited. Applicant respectfully points out, however, that Gabbe does not contain a Figure 11 or a Figure 12.

of the recording sheet. (See Gabbe, Abstract.) In order to do so, Gabbe is seen to describe using a supplied parameter supplied to define the number of pages to print on a sheet and information concerning the sheet (i.e., size and orientation), together with a fit-grid procedure, to generate a scale factor. Gabbe is then seen to describe sending the scale factor to the printer as part of a transformation matrix prior to sending the page description, with the transformation matrix being used by the printer to scale the page to fit into a grid area. (See Gabbe, col. 5, lines 57 to 64, col. 7, line 61 to col. 8, line 33, and col. 12, lines 22 to 46.)

Gabbe is not seen to disclose or to suggest re-sizing by operation on spooled drawing commands provided by an application program, and a generating means generating a print job for sending to a printer, the print job comprising printer control commands based on the re-sized drawing commands.

Therefore, for at least the foregoing reasons, Claim 1 is believed to be in condition for allowance. Further, Applicant submits that Claims 58 to 61 are believed to be in condition for allowance for at least the same reasons.

Claims 62 to 66

Claim 62 defines a print layout device, which serves as a host computer for providing a layout for a recording sheet and generating a print job to be sent to a printer. The print layout device comprises a margin setter, a spooler, a data re-sizer and a print job generator. The margin setter sets a margin for a sheet, and the spooler spools drawing commands based on a print request provided by an application in a memory. The data re-sizer re-sizes by operation on the drawing commands spooled by the spooler in the

memory in each logical page provided by the application in consonance with a printable area of a physical page obtained based on the margin set by said margin setter. The print job generator generates a print job comprising a printer control command by a physical page unit, based on the drawing commands re-sized by said data re-sizer, wherein, when the re-sized drawing commands correspond to a plurality of pages to be printed on one sheet, said data re-sizer performs a process for arranging the re-sized drawing commands for the plurality of pages such that data generated based on the re-sized drawing commands such that data generated based on the re-sized drawing commands are centered on the printable area.

Claim 62 has, among its features, the features of re-sizing by operation on spooled drawing commands provided by an application program, and generating a print job to be sent to a printer, the print job comprising printer control commands based on the re-sized drawing commands.

As discussed above, none of the applied art, namely Forest, Takahashi, or Gabbe, or any permissible combination thereof, is seen to disclose or to suggest at least these features.

Therefore, Claim 62 is believed to be in condition for allowance. Further, Applicant submits that Claims 63 to 66 are believed to be in condition for allowance for at least the same reasons.

CONCLUSION

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa,
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Respectfully submitted,


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